United States Patent [19]

Petit

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[54] **DOME SHAPED CLOSURE CAP**

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[51] **Int. Cl.**[5] **B65D 51/18**

[52] **U.S. Cl.** **215/228**; 215/227

[58] **Field of Search** 215/228, 230, 319, 329, 215/227; 220/376, 377, 212, 521

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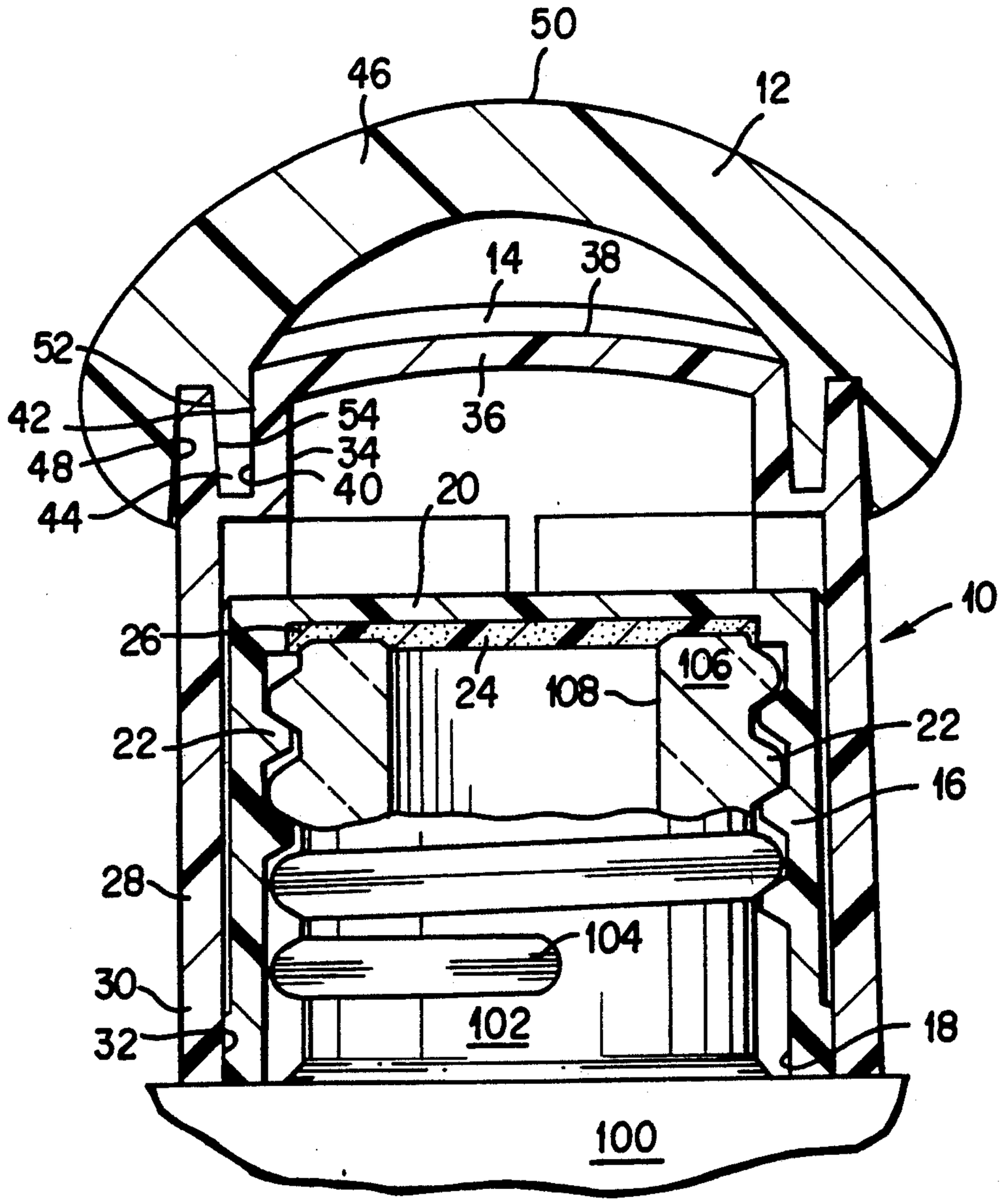
[57] **ABSTRACT**

The invention relates to a closure cap having a structural arrangement which provides a frictional fitting dome attachment to the base and provides an arrangement in which any shaped dome can be fitted thereon. Moreover, hot stamped discs with decorative designs are placed below transparent domes. This allows a manufacturer to vary the cap configurations.

10 Claims, 2 Drawing Sheets



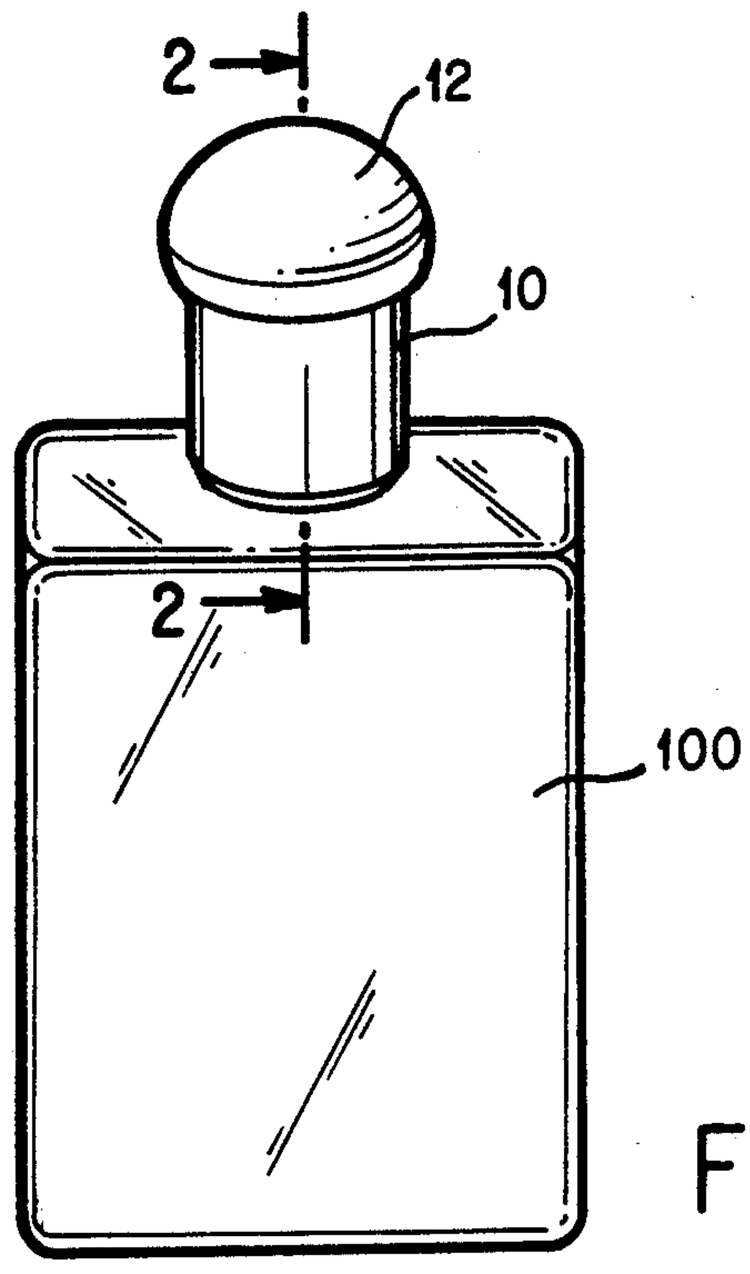

2
12
10
2
100

FIG. 1

50
46
12
14
38
52
42
54
36
48
34
44
40
20
10
26
24
108
106
22
22
16
28
104
30
102
18
32
100

FIG. 2

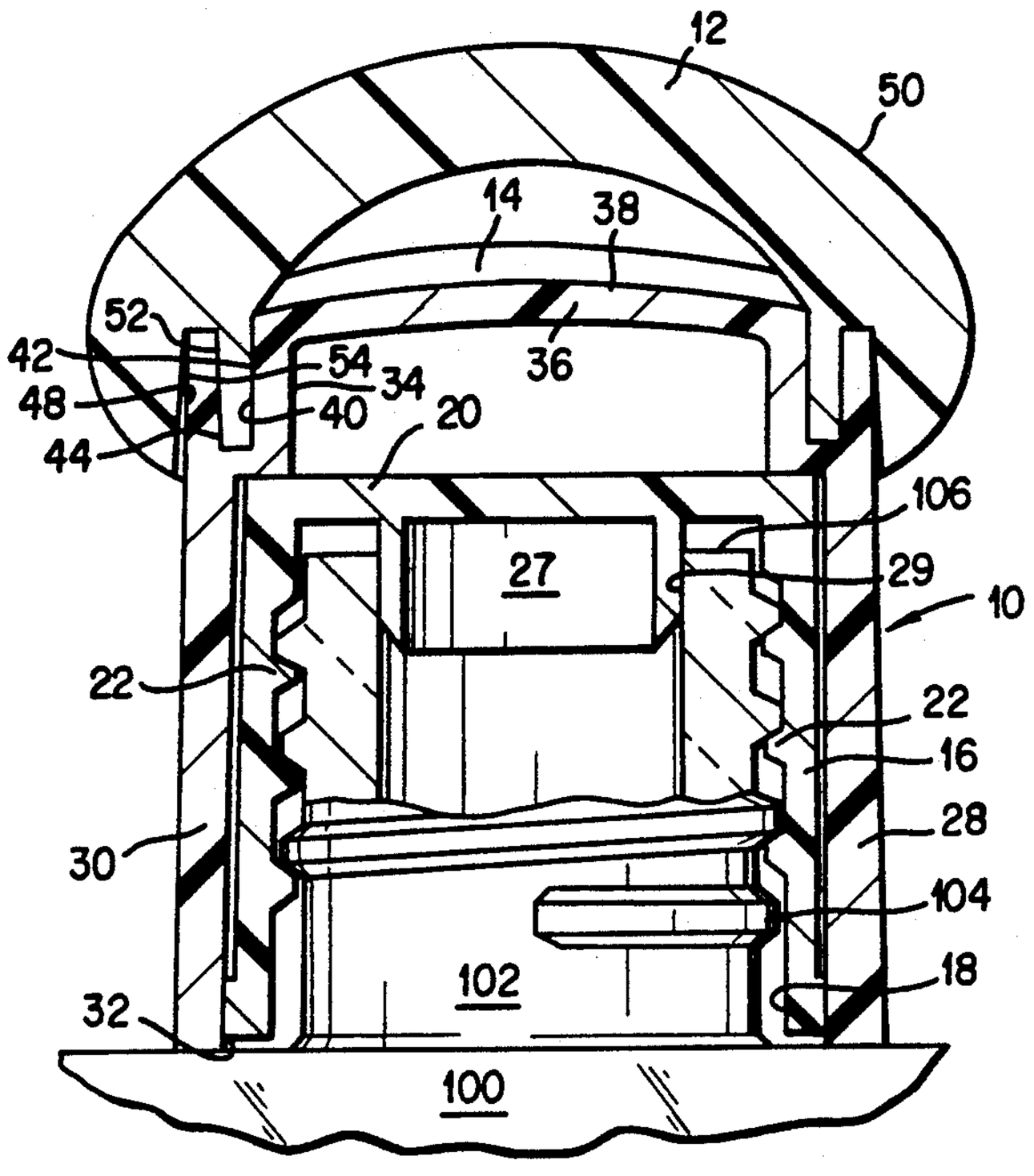


FIG. 3

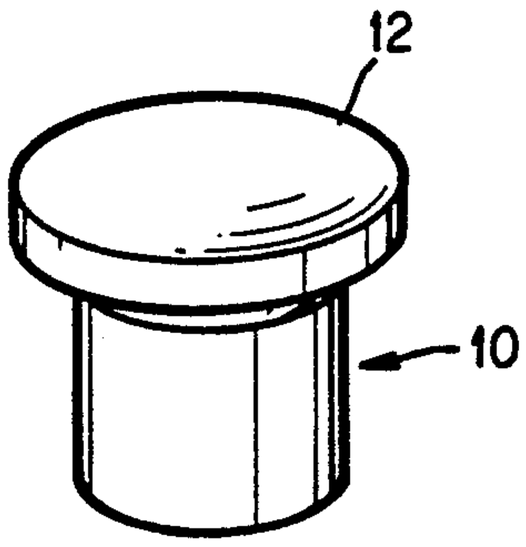


FIG. 4

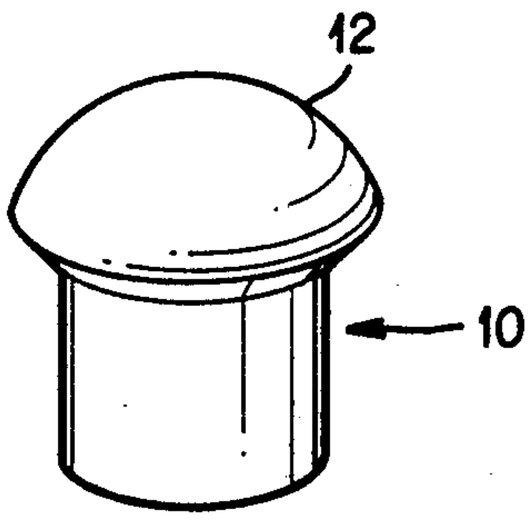


FIG. 5

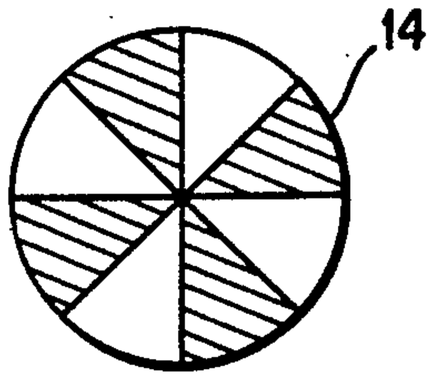


FIG. 6

DOME SHAPED CLOSURE CAP

BACKGROUND OF THE INVENTION

1. Field of the Invention

This invention is related to a closure cap having a structural arrangement which provides a friction fitting dome attachment to the base and provides an arrangement in which any shape dome can be fitted thereon. This provides for an aesthetically appealing product by permitting the closure cap to be formed with various dome configurations. Additionally, when a clear dome is used, a disc with a hot stamped design can be placed under the clear dome as a decorative or advertising element to add to the aesthetic appeal of the cap.

2. Description of the Prior Art

In the advertising and sale of the highest quality perfumes, cosmetics and similar products, it is desireable to use bottles and containers which convey to the consumer the quality of the product contained therein. This may be done in either an understated or a flamboyant manner. Moreover, particularly when a single manufacturer manufactures several related products, the manufacturer may want to distinguish the product line in a general way, while maintaining individual distinctions amongst the variations within the product line. Additionally, the manufacturer may wish to achieve these goals economically without having to provide individual manufacturing facilities for each distinction in packaging in the product line.

An ideal way to achieve this goal is to provide bottles or containers with caps or stoppers which include means to interchange various dome shapes thereupon. Moreover, with the use of clear domes upon the caps, discs with variety of designs can be interchangeably placed underneath the dome.

SUMMARY OF THE INVENTION

This invention includes a closure cap having a structural arrangement which provides a frictional fitting dome attachment to the base and provides an arrangement in which any shaped dome can be fitted thereon. This provides for an aesthetically appealing product by permitting the closure cap to be formed with various dome configurations. Additionally, with the use of a transparent dome piece, decorative discs can be inserted thereunder in order to provide for different visual effects and product differentiation.

BRIEF DESCRIPTION OF THE DRAWINGS

Further objects and advantages of the invention will become apparent from the following description and claims, and from the accompanying drawings, wherein:

FIG. **1** discloses a front perspective view in elevation of a bottle including the cap of the present invention.

FIG. **2** discloses a cross-sectional view along Plane **2—2** of FIG. **1**, partly in elevation, of a first embodiment of the cap of the present invention, adapted to the threads of bottles commonly found in the United States.

(FIG. **3** discloses a cross-sectional view along plane **2—2** of FIG. **1**, partly in elevation, of a second embodiment of the cap of the present invention, adapted to the threads of bottles commonly found in Europe.

FIGS. **4** and **5** disclose a front perspective view in elevation of alternative dome shapes of the cap of the present invention.

FIG. **6** discloses a front view of a hot stamped disc with an illustrative decorative design thereon.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

Referring now to the drawings in detail wherein like numerals indicate like elements throughout the several views, FIG. **1** discloses a front perspective view of perfume or cosmetic bottle **100** with cap **10** thereupon. Friction-fit dome **12** is affixed to the crown of cap **10**. Dome **12** not only serves a decorative function, allowing for the manufacturer to produce a variety of caps to allow for product differentiation without excessive manufacturing costs, but also provides a place for the user to grasp the capped bottle firmly. Dome **12** may be opaque, translucent or transparent. In the case of transparent domes, hot stamp disc **14** (see FIGS. **2**, **3** and **6**) is inserted underneath dome **12** so as to allow for further product differentiation without excessive manufacturing costs.

FIG. **2** discloses a first embodiment of the cap **10** of the present invention, adapted to the stem **102** with threads **104** thereupon of bottles **100** commonly found in the United States. Similarly, FIG. **3** discloses a second embodiment of the cap **10** of the present invention, adapted to the stem **102** with threads **104** thereupon of bottles **100** commonly found in Europe. Inner sleeve **16** is of a hollow cylindrical shape with an open end **18**, a closed end **20** and interior threads **22**. Open end **18** engages stem **102** and abuts bottle **100**. In FIG. **2**, closed end **20** abuts the distal end **106** of stem **102**, engaging a water-resistant flexible gasket **24** within recess **26** against opening **108** of distal end **106** of stem **102** while in FIG. **3**, plug **27** extends from closed end **20** into opening **29** forming a watertight connection therebetween. Inner sleeve **16** fits concentrically within outer shell **28**. Outer shell **28** includes a concentric cylindrical sleeve **30** with an open end **32** to engage stem **102** and abut bottle **100**. Sleeve **30** also includes a distal section of reduced diameter **34** to serve as a stop for inner sleeve **16**. Distal section of reduced diameter **34** is positioned so as to allow the insertion of a variety of lengths of inner sleeve **16** in order to accommodate a wide variety of lengths of stem **102** and configurations of thread **104**. As can be seen from comparing FIGS. **2** and **3**, FIG. **2** discloses an inner sleeve **16** to accommodate a shorter stem **102** and threads **104** common to the U.S. while FIG. **3** discloses and inner sleeve **16** to accommodate a longer stem **102** and threads **104** common to Europe. Inner sleeve **16** and outer shell **28** may be attached by a closely machined fit or by glue or a similar bonding agent.

Outer shell **28** includes arch **36** which rises above distal section **34**. The upper side **38** of arch **36** provides support for hot stamp disc **14** in the case of a transparent dome. Upwardly facing annular notch **40** is formed outwardly adjacent to arch **36**. Upwardly facing annular notch **40** includes inner wall **42** and outer wall **44**.

Dome **46** can have various shapes, arcuate or otherwise, including upwardly extending ovoid portion **50** as shown in FIGS. **2** and **3** or any variations thereof as shown in the illustrative examples of FIGS. **4** and **5**. The lower portion of dome **46** includes downwardly facing annular notch **48** with inner face **52** and outer face **54**. Downwardly facing annular notch **48** is configured to engage outer wall **44** of outer shell **28** while upwardly facing annular notch **40** is configured to engage inner face **52** of dome **46**. Outer face **54** can be

shaped so as to be integrated into the upwardly extending ovoid portion **50**.

In the case of a transparent dome **46**, hot stamp disc **14** is placed upon upper side **38** of arch **36**.

In order to use this cap **10**, the user takes an outer shell **28** and chooses the inner sleeve **16**, dome **46**, and, optionally, hot stamp disc **14** as is appropriate for bottle **100**, stem **102** and the product (not shown) contained within bottle **100**. The user then assembles the cap **10** as described herein and screws the cap onto the stem **102** of bottle **100**.

Thus the several aforementioned objects and advantages are most effectively attained. Although a single preferred embodiment of the invention has been disclosed and described in detail herein, it should be understood that this invention is in no sense limited thereby and its scope is to be determined by that of the appended claims.

What is claimed is:

1. A cap for a container including a hollow cylindrical body; a section of reduced diameter within said body; a support member rising above said section of reduced diameter; means for securing said body to the container comprising a threaded inner sleeve concentric within said body and below said section of reduced diameter; a first detent means on an upper end of said body; and an upwardly extending arcuate dome including a second detent means; wherein said first and second detent means engage each other so as to interchangeably secure said upwardly extending arcuate dome to the cap.

2. The cap of claim **1** wherein said threads of said means for securing are internal within said body.

3. The cap of claim **2** wherein said first detent means comprises an upwardly facing annular notch; wherein second detent means comprises a downwardly facing annular notch; and wherein said first and second annular notches adjacently engage one another.

4. The cap of claim **3** wherein an outer diameter of said upwardly facing annular notch is substantially equal to an inner diameter of said downwardly facing annular notch.

5. The cap of claim **4** wherein said upwardly extending arcuate dome is transparent and wherein a decorative disc is inserted between said upwardly extending arcuate dome and said body.

6. The cap of claim **5** wherein said decorative disc is hot stamped.

7. The cap of claim **1** wherein said first detent means comprises an upwardly facing annular notch; wherein second detent means comprises a downwardly facing annular notch; and wherein said first and second annular notches adjacently engage one another.

8. The cap of claim **7** wherein an outer diameter of said upwardly facing annular notch is substantially equal to an inner diameter of said downwardly facing annular notch.

9. The cap of claim **8** wherein said upwardly extending arcuate dome is transparent and wherein a decorative disc is inserted between said upwardly extending arcuate dome and said body.

10. The cap of claim **9** wherein said decorative disc is hot stamped.

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